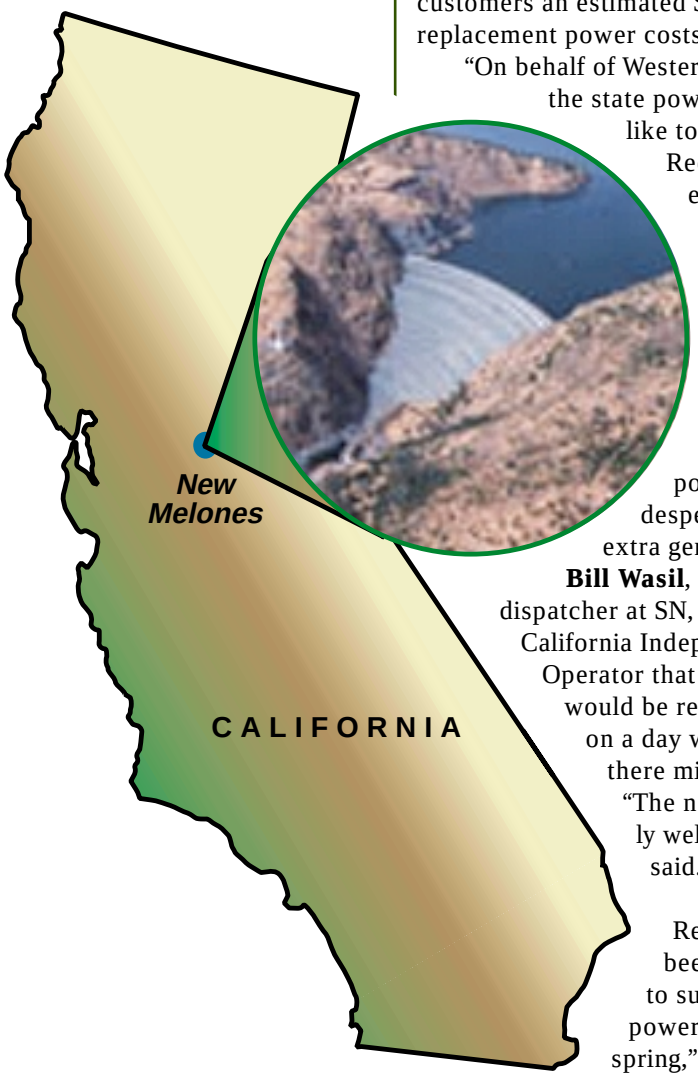
New Melones: A quick fix helps keep lights on

by Dave Christy

Quick work by the U.S. Bureau of Reclamation, along with Western customer funding, helped restore badly needed generation to the California grid—46 days ahead of schedule.

Repairs to the hydropower plant at New Melones Dam, part of California's Central Valley Project, were completed ahead of schedule, putting two badly needed 190-MW generators back in service. The shortened repair schedule saved Western customers an estimated $2 million in replacement power costs.

"On behalf of Western's customers and the state power users, I would like to thank Reclamation employees for their hard work to restore service at New Melones," said **Jerry Toenyes**, Western's Sierra Nevada regional manager. "The power system is in desperate need of the extra generation."



Bill Wasil, assistant chief dispatcher at SN, notified the California Independent System Operator that New Melones would be restored to service on a day when it appeared there might be blackouts. "The news was extremely well received," he said.

"Western and Reclamation have been working closely to support California's power needs since last spring," Toenyes added.

Generation schedules for the Central Valley Project have been changed regularly at the request of the California ISO to meet power needs. The two agencies also have worked cooperatively on projects such as a fiber-optic installation in Northern California to improve communication between the two agencies.

In late 1997, Reclamation first discovered cracks in two of the 10-inch-diameter tie rods providing structural support to the dam's 23-foot-diameter diversion tunnel. The tunnel moves water for electrical production, flood control and irrigation. Following welding repairs in December 1997, Reclamation conducted a follow-up inspection in October 1999 and found the tie rods had cracked again. They developed a repair plan in early 2000 and began work during a scheduled November 2000 repair outage.

The contractor doing the work was asked to speed up the schedule to get the powerplant operational as quickly as possible. Central Valley Project power customers were interested in speeding up the repairs since approximately 30 gigawatt-hours of energy production was lost in November and December as water was spilled around the powerplant. If the repairs had not been accelerated, generation would have decreased by an additional 15 GWh in January and February, based on required river flows. Monetary incentives for the contractor to accelerate the construction schedule amounted to $400,000.

A funding agreement with Western customers financed the accelerated repair schedule. An Operations and Maintenance Governance Board administers the funds, and Reclamation was able to access the funds with Governance Board approval.

Actual repair work began Jan. 2 and was completed on Jan. 17. Water began to flow into the tunnel on Jan. 18, bringing the two generators back into service 46 days early, saving about 15 GWh of generation thought to have been lost. At the purchase power cost paid by Western in January ($170 per MWh), the accelerated repairs saved approximately $2 million for CVP power customers.

(Note: Christy is a public affairs specialist at SN.)